

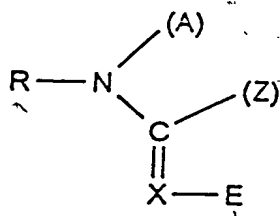
### Patent Claims

1. Use of agonists and antagonists of the nicotinerbic acetylcholine receptors of insects for the non-systemic control of parasitic insects, such as fleas, lice and flies, on humans and on animals.

A

~~The Method~~  
2. Use according to Claim 1,

characterised in that compounds of the general formula (I)



in which

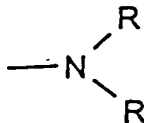
R represents hydrogen, optionally substituted radicals from the group comprising acyl, alkyl, aryl, aralkyl, heteroaryl or heteroarylalkyl;

A represents a monofunctional group from the series comprising hydrogen, acyl, alkyl and aryl or represents a bifunctional group which is linked to the radical Z;

E represents an electron-attracting radical;

X represents the radicals  $-\text{CH}=\text{}$  or  $=\text{N}-$ , it being possible for the radical  $-\text{CH}=\text{}$  to be linked to the radical Z instead of an H atom;

Z represents a monofunctional group from the series comprising alkyl,  $-\text{O}-\text{R}$ ,  $-\text{S}-\text{R}$  and



or represents a bifunctional group which is linked to the radical A or the radical X,

are used as the ~~active compound~~ <sup>agonist or antagonist</sup>.

~~The Method~~  
3. Use according to Claim 1,

characterised in that compounds of the formula (I) according to Claim 2, in which the radicals have the following meanings:

R represents optionally substituted heteroarylmethyl, heteroarylethyl containing up to 6 ring atoms and N, O, S and in particular N as hetero atoms,

A represents hydrogen and optionally substituted alkyl or alkylene containing 1-4 C atoms, it being possible for the alkylene groups to be interrupted by hetero atoms from the series comprising N, O and S,

A and Z can form a saturated or unsaturated heterocyclic ring together with the atoms to which they are bonded. The heterocyclic ring can contain an additional 1 or 2 identical or different hetero atoms and/or hetero groups.

E represents NO<sub>2</sub>, CN or halogenoalkylcarbonyl,

X represents -CH= or -N=,

Z represents optionally substituted radicals alkyl, -OR, -SR or -NRR, in which R has the abovementioned meaning,

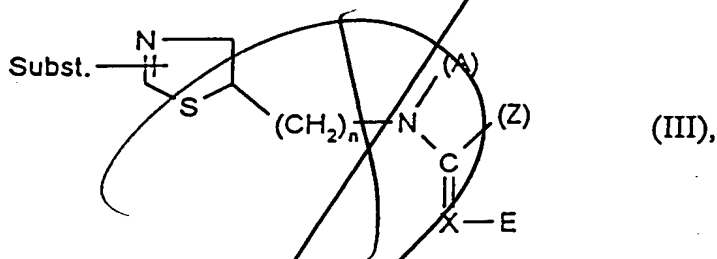
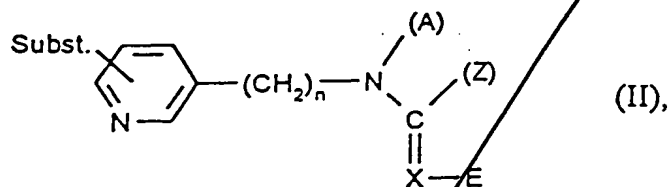
Z can not only form the abovementioned ring, but can also, together with the atom to which it is

bonded and the radical  $\begin{array}{c} | \\ =C- \end{array}$

instead of X, form a saturated or unsaturated heterocyclic ring,

are used as the ~~active compounds~~ <sup>agonist or antagonist</sup>.

Use according to Claim 1, characterised in that compounds of the general formulae (II) and (III):



in which

n represents 1 or 2,

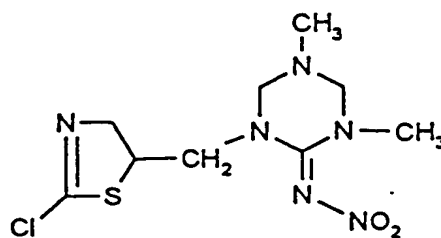
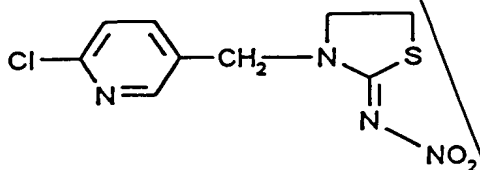
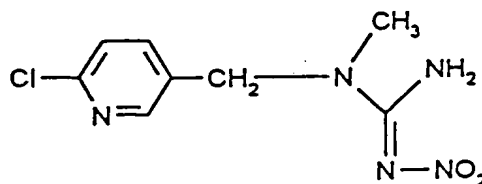
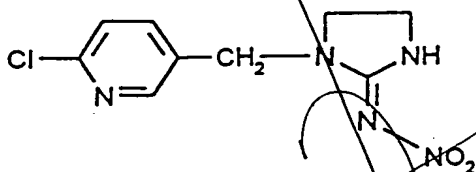
Subst. represents halogen,

and

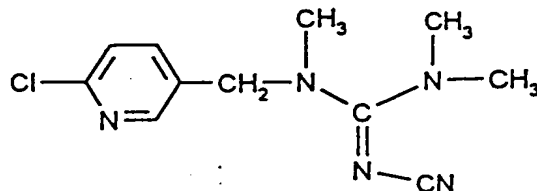
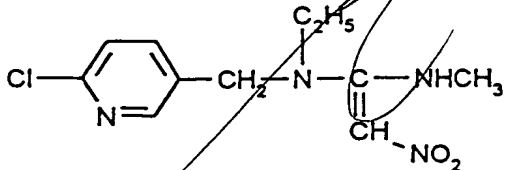
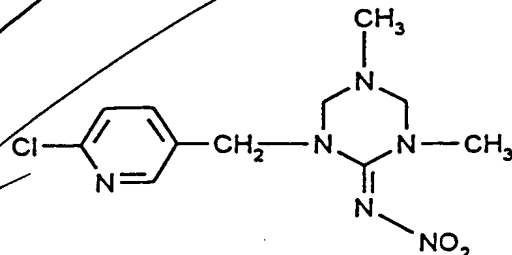
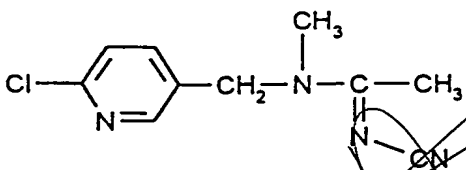
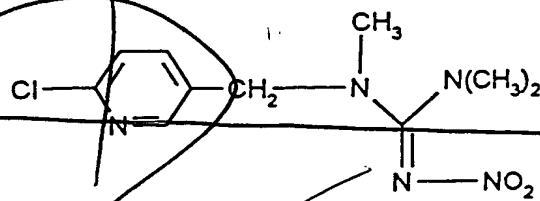
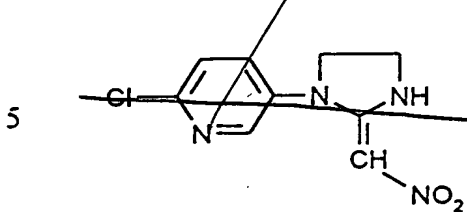
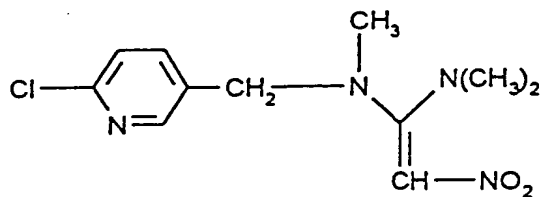
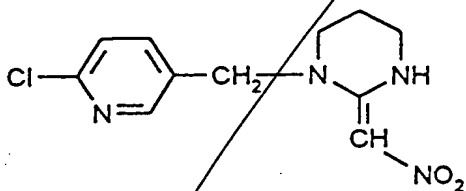
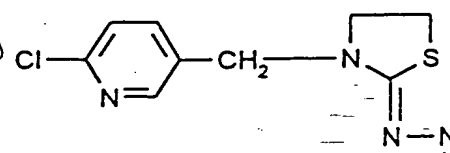
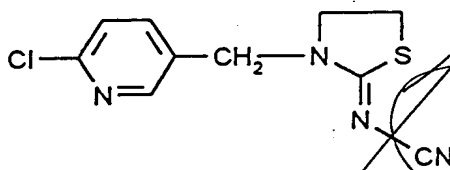
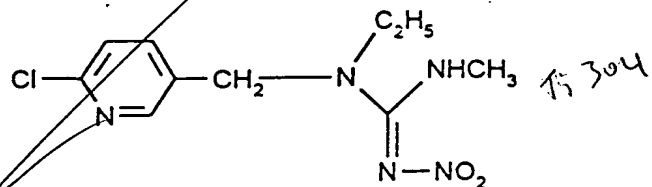
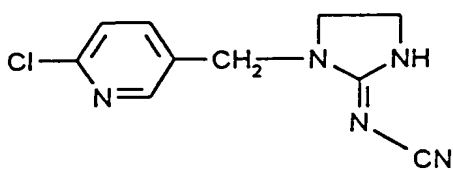
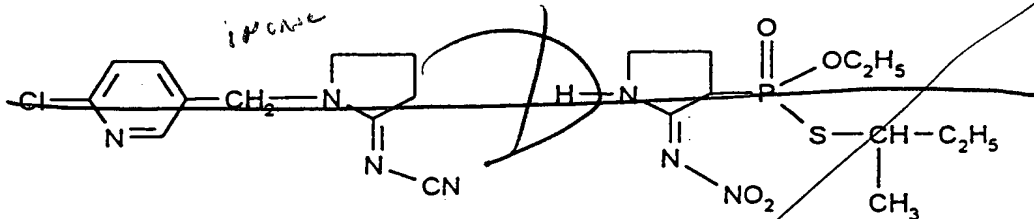
A, Z, X and E have the meanings given Claims 2 and 3,

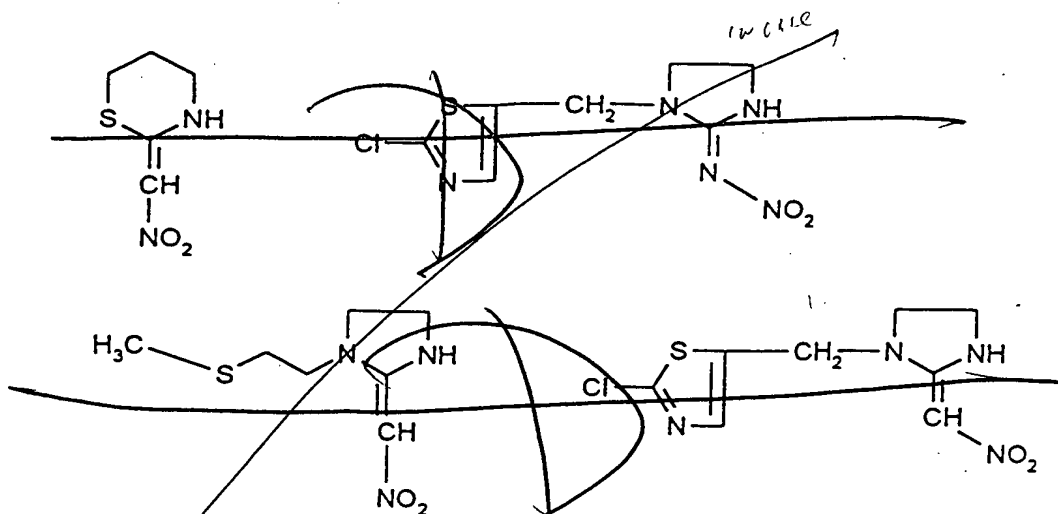
are used as the ~~active compound~~ <sup>agonist or antagonist</sup>.

5. <sup>The method</sup> ~~Use~~ according to Claim 1, characterised in that one or more of the following compounds:



Alb 1022





agonist or antagonist  
are used as the active compound.

6. Use according to Claim 1, characterised in that imidacloprid = 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinium is used as the active compound.
7. Agents for the non-systemic control of parasitic insects on humans and animals, characterised in that they contain the active compounds according to Claims 1 to 6.
8. Shaped articles for the non-systemic control of parasitic insects on animals, characterised in that they contain the active compounds according to Claims 1 to 6.
9. Use of the active compounds according to Claims 1 to 6 for the preparation of agents for the non-systemic control of parasitic insects on humans and animals.

Add  
A1

Add D1  
Add D2

add  
E3

add  
F1

add  
G1